Claims

1. A method for high temperature short-time distillation of a residual oil originating from the processing of crude petroleum, natural bitumen or oil sand, wherein in a mixing apparatus (1) the residual oil is mixed with granular hot coke as heat transfer medium, converted into oil vapour, gas and coke, and gases and vapours are evacuated from the mixing apparatus (1) while being substantially separated from the granular coke, gases and vapours are cooled down and a product oil in form of condensate as well as gas is produced and wherein the coke, which has been evacuated from the mixing apparatus (1), is again heated and returned into the mixing apparatus (1) as heat transfer medium, characterized in that the vaporized product oil is partially condensed in a column (17) at temperatures beneath 450°C while adding gas or water vapour for reducing the partial pressure, a high-boiling fraction is extracted from this column (17) and the non condensed gases and oil vapours are evacuated.

2. A method according to claim 1, characterized in that the non condensed gases and oil vapours from said column (17) are introduced into a second fractionating column (19), in which the product oil, which has not been condensed in the first column (17), is decomposed into vacuum gas oil having a low content of pollutants as well as a benzine/gas oil fraction.

3. A method according to claim 1 through 2, characterized in that self produced, returned product gas is introduced as gas into said column (17).

4. A method according to claim 1 through 3, characterized in that the partial pressure of the product oil in column (17) is reduced to such an extend that at temperatures beneath 450°C a highly boiling fraction having an initial boiling point between 450 and 650°C can be condensed and be extracted separately from the other product oil fractions.

5. A method according to claim 1 through 4, characterized in that the separated highly boiling fraction contains more than 60% of the Conradson carbon residue (CCR), which is still contained in the product oil vapours, more than 70% of the

heavy metals nickel (Ni) and vanadium (V), which are still contained in the product oil vapours, as well as more than 80% of the asphaltenes, which are still contained in the product oil vapours.

6. A method according to claim 1 through 5, characterized in that the gas/oil vapour mixture from the mixing apparatus (1) is dedusted in a cyclone (14) before being introduced in said column (17).

7. A method according to claim 1 through 6, characterized in that said column (17) is a quench cooler with a downstream multi-venturi washer, in which the gases and vapours originating form the mixing apparatus (1) are cooled and residual breeze is washed out.

8. A method according to claim 1 through 7, characterized in that the high boiling fraction, which has been separated in said column (17), is returned into said mixing apparatus (1).